ORIGINAL NEW APPLICATION

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Arizona Corporation Commission
DOCKETED
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IN THE MATTER OF ~~THE APPLICATION OF~~ TUCSON ELECTRIC POWER COMPANY FOR APPROVAL OF ITS 2017 RENEWABLE ENERGY STANDARD IMPLEMENTATION PLAN.	)	DOCKET NO. E-01933A-16-0235

APPLICATION

Tucson Electric Power Company ("TEP" or the "Company"), through undersigned-counsel, hereby submits its 2017 Renewable Energy Standard and Tariff ("REST") Implementation Plan ("Plan") for Arizona Corporation Commission ("Commission") approval, in compliance with A.A.C. R14-2-1801 *et seq.*

TEP's Plan is designed to achieve 2017 REST requirement of providing seven (7) percent of retail sales (or 586,858 megawatt hours ("MWh")) from renewable generating resources as cost-effectively as possible. Key components of the Plan include (i) utility scale renewable generation (ii) (ii) distributed generation incentive program; (iii) renewable energy balancing, integration, and testing, and (iv) proposed rates and REST tariffs.[1]

The estimated cost to implement the 2017 Plan is approximately $53.7 million, which is approximately $3 million less than the 2016 Plan budget. To fund the 2017 Plan, TEP is proposing to recover approximately $52.3 million through the REST tariff and to apply approximately $1.4 million of carryover funds from the 2015 budget. In order to implement the Plan, TEP requests that the

[1] For its Plan, Exhibit 3 (AMCCCG) and Exhibit 5 (New Implementation Plan New Resource Costs) are confidential and will be provided to Commission Staff upon execution of a protective agreement.

Commission approve: (i) a REST surcharge of $0.01300 per kWh for 2017, which is equal to the 2016 surcharge and (ii) an increase in the surcharge caps across rate classes. The increase in the surcharge caps result primarily from much lower carryover funding for 2017 (as compared to 2016) and a need to recover more through the REST surcharge for the 2017 Plan.

TEP is not proposing any new incentives for residential or non-residential solar distributed generation or solar water heating. TEP's Plan provides for renewable generation to meet the 2017 annual compliance requirement, with the exception of the residential portion of the annual Distributed Renewable Energy requirement set forth in A.A.C. R14-2-1805. In Decision No. 75560 dated May 13, 2016, the Commission ordered that a waiver be granted prospectively for the 2017 calendar year for the 2017 residential DG increment. Therefore, TEP will not be requesting any additional waivers for 2017.

TEP believes it is in the public interest to implement cost-effective, customer-based solutions to meet the Company's REST requirements while providing safe, reliable and affordable energy to all its customers. Accordingly, TEP requests the Commission to issue an order prior to December 31, 2016, to be effective January 1, 2017 that:

1. Approves its 2017 Renewable Energy Implementation Plan;
2. Approves the REST surcharge of $0.0130 per kWh for 2017; and
3. Approves increases in the monthly caps for all customer classes as set forth in the Plan.

RESPECTFULLY SUBMITTED this 1st day of July 2016.

TUCSON ELECTRIC POWER COMPANY

By _____

Michael W. Patten
SNELL & WILMER L.L.P
One Arizona Center
400 East Van Buren Street 1900
Phoenix, Arizona 85004

And

Bradley S. Carroll
Tucson Electric Power Company
88 East Broadway Blvd., MS HQE910
P. O. Box 711
Tucson, Arizona 85702

Attorneys for Tucson Electric Power Company

Original and 13 copies of the foregoing filed this 1st day of July, 2016, with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Copies of the foregoing hand-delivered/mailed this 1st day of July, 2016, to the following:

Mr. Thomas M. Broderick, Director
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Ms. Janice M. Alward
Chief Counsel
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Mr. Dwight Nodes
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

By _____

Tucson Electric Power

2017 Renewable Energy Standard Implementation Plan

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Tucson Electric Power Company ("TEP" or "Company") hereby submits its 2017 Implementation Plan ("Plan" or "IP") in compliance with the Arizona Corporation Commission's ("Commission") Renewable Energy Standard and Tariff ("REST") Rules pursuant to A.A.C. R14-2-1813. The cost-effective strategy set forth in the Plan demonstrates TEP's commitment to fulfilling the REST requirements for 2017 and beyond. Key components of the Plan include: existing and new renewable energy resources; proposed and existing Company programs and budgets; and the related REST tariff.

Pursuant to A.A.C. R14-2-1804 and R14-2-1805, in 2017, TEP must obtain seven (7) percent of its 2017 annual retail sales from renewable resources; and thirty (30) percent of that renewable energy must come from distributed generation ("DG") resources. Further, TEP must meet one-half of its annual DG requirement from residential applications and the remaining one-half from non-residential, non-utility applications. TEP plans to satisfy these REST requirements using existing utility-scale renewable generation and credits, including utility-owned assets and power purchase agreements ("PPA"); and applicable DG resources, including utility-owned and 3rd-party.

To fund these efforts, TEP is proposing to recover approximately $52.3 million through the REST tariff. The estimated cost to implement the Plan is approximately $53.7 million, which will be partially offset by applying approximately $1.4 million of carryover funds from the 2015 REST budget. This funding is necessary to cover the cost of renewable energy purchases in excess of the cost of conventional generation; legacy performance-based incentive payments; and program and administrative costs.

The cost of renewable energy is included in two components of TEP's rates – the REST surcharge and the Purchased Power and Fuel Adjustment Clause ("PPFAC"). In TEP's Plan for 2017, due to the continued decline of natural gas and wholesale market power, the 2017 market price for conventional generation is below the levelized price for conventional generation that was included in TEP's 2016 Plan. As a result, the cost of renewable energy in excess of conventional generation included in TEP's Plan is approximately $3 million more than 2016 and the corresponding reduction in the cost of conventional generation that will be reflected in TEP's

PPFAC. TEP expects its annual REST budgets for 2017 through 2021 to average approximately $49 million (See Exhibit 1).

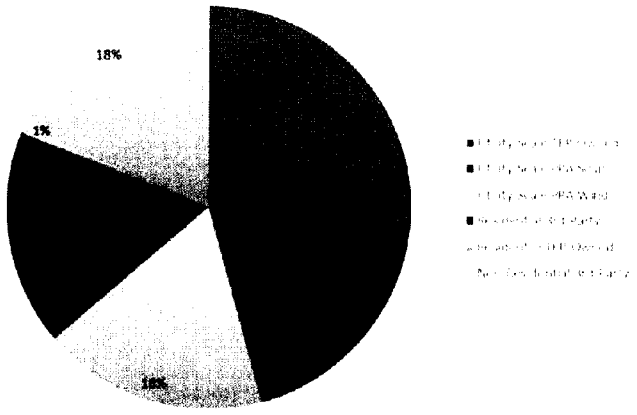
TEP's Plan demonstrates the Company's commitment to meeting the renewable energy requirements in the most effective manner and in the public's interest. TEP's Plan provides for renewable generation to meet the 2017 annual compliance requirement, including the non-residential DG requirement set forth in A.A.C. R14-2-1805(D); however, TEP has been granted a prospective waiver of the residential portion as set forth in Decision No. 75560 dated May 13, 2016. TEP respectfully requests that the Commission approve the Plan, as well as its associated budget and tariff, prior to December 31, 2016 to be effective January 1, 2017.

II. IMPLEMENTATION PLAN COMPONENTS

For 2017, TEP's total renewable generation requirement is seven (7) percent of retail kWh sales, a level projected to equal 586,858 megawatt hours ("MWh"). The REST targets two resource categories: utility-scale generation and DG.

TEP's Plan will allow the Company to provide its required amount of retail energy requirements from renewable resources in 2017 and continue its efforts to maintain a diversified and cost-effective renewable resource portfolio as shown in Graph 1.

Graph 1. TEP's 2017 Renewable Resource Portfolio



A. Utility-Scale Renewable Generation

TEP will satisfy the 2017 utility-scale requirement through the total output of renewable resources of 283.9 megawatts ("MW") measured in alternating current ("AC" or "ac") (see Table 1). This total is comprised of solar electric systems, including concentrated and photovoltaics ("PV") , with a combined rated capacity of approximately 194.5 MWac; as well as wind and other renewable resources with a combined rated capacity of approximately 89.4 MWac. Of this total, 238 MWac will come from renewable PPAs currently in effect or with anticipated completion dates in 2017. The remaining 45.9 MWac will come from TEP-owned facilities.

The combination of TEP-owned generation facilities and PPAs should allow the Company to continue to meet and exceed its renewable energy requirements for the next four years. Graph 2 shows how TEP's current and planned resources will allow the Company to satisfy its utility-scale requirement through approximately 2020.

Graph 2. Renewable Energy Standard Targets

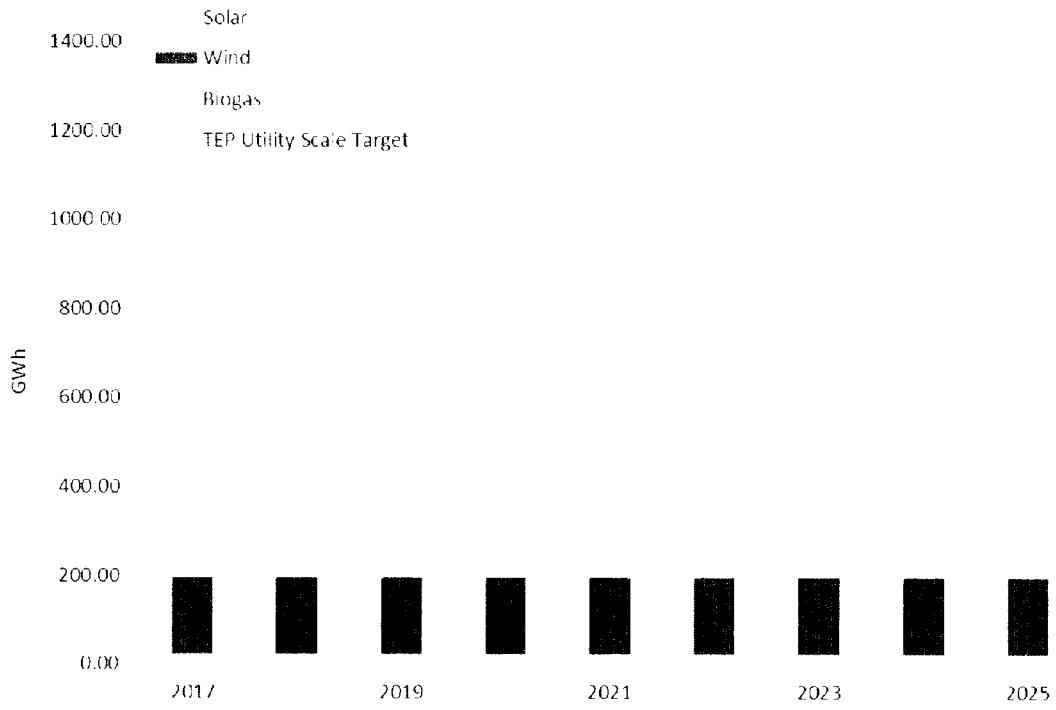


Table 1 details TEP's utility-scale projects, including existing systems and planned resources.

Table 1. Utility Scale Renewable Projects: Existing and Planned

Project	Capacity MWac	Capacity MWdc	2017 Expected Annual MWh	Technology	Expected In-Service Date	TEP Owned
Existing Renewable Generation						
SGS (4.6 + 1.81)	5.13	6.41	6,792	Fixed PV	Operational	Yes
UASTP I	1.28	1.60	2,843	Single-Axis PV	Operational	Yes
Macho Springs	50.40		110,376	Wind	Operational	No
Picture Rocks	20.00	25.00	58,094	Single-Axis PV	Operational	No
Avra Valley	25.00	34.41	64,074	Single-Axis PV	Operational	No
Avalon Solar I	28.34	35.00	78,257	Single-Axis PV	Operational	No
UASTP II	4.00	5.00	7,860	Fixed PV	Operational	Yes
Solon Prairie Fire	4.00	5.00	7,860	Fixed PV	Operational	Yes
Gatos Montes	4.92	6.00	10,088	Fixed PV	Operational	No
Cogenra	1.10	1.38	1,137	Single-Axis PV	Operational	No
Amonix UASTP	1.20	2.00	2,856	CPV	Operational	No
E.On Tech Park	4.80	6.60	13,122	Single-Axis PV	Operational	No
Valencia Solar	10.00	13.20	21,465	Single-Axis PV	Operational	No
White Mountain Solar	8.25	10.00	14,950	Fixed / LCPV	Operational	Yes
Sundt Augmentation	5.00		14,670	Thermal	Operational	Yes
Fort Huachuca PHI	13.60	17.20	29,339	Fixed PV	Operational	Yes
SunPower (OH & HQ)	0.44	0.55	1,090	Fixed PV	Operational	Yes
Red Horse (Wind)	30.00		52,560	Wind	Operational	No
Red Horse (Solar)	41.00	51.25	117,341	Single-Axis PV	Operational	No
Avalon Solar II	17.22	21.53	47,790	Single-Axis PV	Operational	No
Sundt Landfill Gas	4.00		21,100	Biogas	Operational	No
DeMoss Petrie	0.18	0.22	364	Fixed PV	Operational	Yes
Total Existing	**279.86**	**242.35**	**684,028**			
Bright Tucson Solar Buildout Plan						
Project	**Capacity MWac**	**Capacity MWdc**	**2017 Expected Annual MWh**	**Technology**	**Expected In-Service Date**	**TEP Owned**
Fort Huachuca PHII	4.00	5.00	8,716	Fixed PV	Nov-16	Yes
Total Future - BTSBP	**4.00**	**5.00**	**8,716**			
Future Renewable Generation						
Rehnu	0.04	0.05	112	Single-Axis CPV	July-16	No
Total Future – Pending (Contracts)	**0.04**	**0.05**	**112**			
Total Planned Generation (Contract	**283.90**	**247.40**	**692,855**			
Total Planned Generation thru 2017	**283.90**	**247.40**	**692,855**			

B. Bright Tucson Solar Buildout Plan

TEP's solar ownership plan ("Bright Tucson Solar Buildout Plan" or "Buildout Plan") has accounted for a portion of the Company's compliance with the REST utility-scale requirement. TEP's 2011 proposed investment of $28 million in the Buildout plan was approved by the Commission in Decision No. 72033 and subsequently affirmed in Decision No. 72736. TEP subsequently received Commission approval in Decision No. 74165 to invest an additional $28 million in the Bright Tucson Solar Buildout Plan in 2014 and another $12 million in 2015. The combined $40 million was designated for the development of a solar array at the U.S. Army's Fort Huachuca. Phase I of Ft. Huachuca was completed at the end of 2014. Phase II is currently under construction, and is expected to be commercially operational by the 4th quarter of 2016.

The Bright Tucson Solar Buildout Plan continues to be an essential component of the Company's renewable energy strategy; however, as stated in the Company's 2016 REST Plan, the Company will no longer request recovery of costs related to new investments through the REST Program. TEP will continue to invest in renewable technologies, as the Company transitions to a more sustainable resource portfolio, but will recover these costs through traditional recovery methods. Through the Buildout Plan and other projects, TEP expects to own approximately sixteen (16) percent of its renewable energy portfolio by the end of 2017.

Table 2 outlines the overall revenue requirement for projects included in the Buildout Plan that were approved for recovery through the REST. Table 3 breaks down the costs for the Buildout Plan for those same projects.

Table 2. Overall Annual Revenue Requirement for the Buildout Plan

Revenue Requirement	2017	2018	2019	2020	2021
Carrying Costs	$ 424,123	$ 287,836	$ 166,312	$ -	$ -
Book Depreciation	600,000	600,000	600,000	-	-
Property Tax Expense	-	54,859	54,027	-	-
O&M	66,000	67,320	68,666	-	-
Lease Expense	-	-	-	-	-
Total Revenue Requirement	**$ 1,090,123**	**$ 1,010,015**	**$ 889,005**	**$ -**	**$ -**

Table 3. Annual Revenue Requirement for the Buildout Plan by Project

Utility Owned Solar Projects by Year	2017	2018	2019	2020	2021
2012 - HQ Rooftop, 0.05 MW	$ -	$ -	$ -	$ -	$ -
2014 - White Mountain Solar, 10 MW	-	-	-	-	-
2014 - Ft. Huachuca PH I, 17.5 MW	-	-	-	-	-
2015 - Sundt Augmentation, 5 MW	-	-	-	-	-
2015 - Ft. Huachuca PH II, 4.5 MW	1,090,123	1,010,015	889,005	-	-
Annual Revenue Requirement	**$ 1,090,123**	**$ 1,010,015**	**$ 889,005**	**$ -**	**$ -**

C. Distributed Generation Incentive Program

TEP is not proposing any new incentives for residential or non-residential solar DG or any other technologies. TEP anticipates that sufficient renewable DG resources will be generated in its service territory to meet the 2017 non-residential DG targets. However, since the Company no longer pays incentives necessary to acquire RECs from qualifying DG projects, it will not have an adequate number of RECs necessary to meet the 2017 residential REST requirements. Per Decision No. 75560 (May 13, 2016). TEP was granted a waiver for 2016 and 2017 of the residential DG requirement.

Table 4. Estimated DG Compliance

2017	Est. DG Req't (kWh)	Capacity (kW)	Est. RECs Available
Residential	88,028,660	32,030	53,988,550
Non-Residential	88,028,660	64,220	124,952,235
Non-Incentivized			
Residential		58,920	106,035,000
Non-Residential		48,200	86,752,800

*Does not include Wholesale Allocations (A.A.C. R14-2-1805)

TEP is including in the Plan funds for performance-based incentives ("PBI") awarded in prior years, before those incentive programs were discontinued. To fund these programs, the budget for the proposed incentive program is $7,192,720.

D. Market Cost of Comparable Conventional Generation

Consistent with the REST Rules, TEP calculates program expenses using the Market Cost of Comparable Conventional Generation ("MCCCG"). Details on the methodology for the MCCCG calculation are included in Exhibit 2 attached hereto. The annual MCCCG rates are calculated in advance and stated as a single dollar per MWh value by technology type. The costs per project that are recovered through the REST are referred to as the Above Market Cost of Comparable Generation ("AMCCCG"). These expenses are based on the PPA pricing after subtracting the corresponding MCCCG based on projected hourly energy profiles and are included in Exhibits 3[1] (AMCCCG) (confidential) and Exhibit 5 (IP Resource Costs) (confidential). Exhibit 4 (IP Resources) shows associated energy production. The profiles are determined by TEP's production cost model. The MCCCG will be included for wind, PV systems, concentrated solar with storage, and bio-fueled renewable resources.

III. THE PLAN BUDGET

As stated previously, TEP is proposing to recover approximately $52.3 million through the REST to fund the Plan. The estimated cost to implement the Plan is approximately $53.7 million, which will be partially offset by applying approximately $1.4 million of carryover funds from the 2015 budget. The Plan's detailed budget is attached as Exhibit 1, which includes a breakdown of the costs for utility-scale energy, residential and non-residential DG programs, research and development, outside services support and reporting, education and outreach, and technology. Table 5 includes a high level Plan budget.

[1] Exhibits 3 and 5 will be provided to Commission Staff upon execution of a Protective Agreement.

Table 5. Plan Budget by Category

Category	Budget
Utility Scale	$ 42,131,342
Existing Large Commercial PBIs	7,192,720
Associated Costs (Education & Outreach, Technical Training, I.T., Metering, Labor, and R&D)	4,351,260
2017 Program Cost	**$ 53,675,322**
Carryover Funds	1,405,878
Total 2017 Plan	**$ 52,269,444**

IV. REST TARIFF

The Plan's tariff is contained in the attached Exhibit 6[2]. TEP's Plan includes a proposed tariff of $0.013 per kWh, with customer caps by class. The caps were developed using the proportional cap allocation method previously approved by the Commission. Under this methodology, the caps for all customer classes should remain the same in 2017, when compared to the approved caps in 2016. Table 6 details the Company's proposed budget for 2017, delineated by rate class, as is currently practiced. Table 7 shows the currently approved surcharge caps by rate class and the caps proposed for the Plan.

Although the Company is providing proposed per kWh charges and rate class caps, the Company is cognizant that the general rate classifications may change in the Company's rate case. As such, these per kWh charges and rate class caps may need to be adjusted pending final outcome of the Company's rate case.

[2] Customer Load Percentage Analysis is set forth in the attached Exhibit 7.

Table 6. 2017 Budget by Rate Class

Rate Class	2016 Approved	2017 Proposed Budget
Residential	$ 19,361,633	$ 21,154,896
Small General Service	15,397,114	16,524,889
Large General Service	7,888,677	8,689,963
Industrial & Mining	4,766,545	5,508,066
Lighting	418,891	414,316
Total	**$ 47,832,860**	**$ 52,292,130**

Table 7. 2017 Surcharge Caps by Rate Class

Rate Class	2016 Approved Caps	2017 Proposed Caps
Residential	$ 4.76	$ 5.25
Small General Service	$ 130.00	$ 160.00
Large General Service	$ 1,300.00	$ 1,600.00
Industrial & Mining	$ 15,000.00	$ 16,000.00
Lighting (PSHL)	$ 130.00	$ 140.00
Per kWh to All Classes	**$ 0.013**	**$ 0.013**

V. RENEWABLE ENERGY BALANCING, INTEGRATION, AND TESTING

TEP typically commits a portion of its REST budget to provide technical research and support for the adoption of renewable energy. Table 8 outlines TEP's proposed budget for this work in 2017. TEP plans to continue its commitment to furthering the integration of renewable energy on its system by participating in the following projects.

Table 8. TEP's Research and Development Initiatives by Project

Renewable Research and Integration Initiatives	
Grid Integration/Penetration Study	$ 240,000
Customer DG Demand Rate Platform	250,000
Solar Resources for Distribution Optimization	1,750,000
Solar Test Yard Maintenance and Equipment	50,000
Field and Lab PV Component Degradation Analysis	50,000
Solar and Wind Operational Forecasting	75,000
Modeling and Simulation of DER Hosting Capacity	200,000
UWIG, SEPA, AWEA membership dues	15,000
Per kWh to All Classes	**$ 2,630,000**

A. Grid Integration/Penetration Study

This study will help TEP to understand the potential impacts of increasing installations of distributed solar generation to the distribution grid, specifically focusing on how high penetration levels of solar will affect grid operations and future investments. The proposed budget is $240,000.

B. Customer DG Demand Rate Engagement Platform Design and Testing

The objective of this initiative is to identify and test the information tools and applications helpful for residential customers to understand usage impacts on bills and benefit from new utility rates. The proposed budget is $250,000.

C. PV Panel Lab Degradation Testing

In order for TEP to adequately maintain its existing and future portfolio of photovoltaic generation, degradation problems that are specific to the Tucson environment need to be identified early in order to prepare for failures in the field. TEP plans to continue to use the University of Arizona's ("UA") state-of-the-art PV panel degradation laboratory to test panels either currently in use or proposed for use in TEP facilities. This testing is designed to reduce the long-term operations and maintenance cost of these facilities. The proposed budget for such research and testing is $50,000. Please see Exhibit 8 demonstrating results that have recently been attained from this testing.

D. Solar Test Yard Maintenance

TEP regularly performs technical analysis on existing and developing PV technologies in its widely regarded test yard facility. Data collected from the test yard helps the Company solicit partners to provide funding for research projects. This collaboration and grant funding allows TEP to optimize investments in appropriate technology for the long-term benefit of customers. In addition to long term system testing; the impacts of adjusting advanced inverter settings on grid operations are being tested; as well as testing of new interconnection technologies. The proposed budget for maintaining this existing technology and managing the many interconnections in the yard, including outside labor, is $50,000.

E. Solar and Wind Operational Forecasting

Due to the highly variable nature of renewable energy, both solar and wind, TEP has continued to partner with the UA to provide operational renewable energy power forecasts. These forecasts are actively used in TEP's Wholesale Marketing and Operations departments. The forecasting portal has been key in helping TEP make purchasing decisions in Wholesale Marketing, as well as provides grid operators insight as to what is occurring with renewable energy generators throughout the service territory. The proposed budget for this program is $75,000.

F. UVIG, SEPA, AWEA Dues

To facilitate its compliance with the REST, TEP actively participates in three renewable industry associations: the Utility Variable (Energy) Integration Group ("UVIG"), the Smart Electric Power Alliance ("SEPA"), and the American Wind Energy Association (AWEA). High penetrations of solar and wind make UVIG (a variable generation group) relevant, while SEPA and AWEA provide resources and expertise that help the Company manage renewable programs and stay informed on issues facing the industry. The proposed budget for these groups' fees is $15,000.

G. Modeling and Simulation of Distributed Energy Resources Hosting Capacity

This demonstration projects uses a system of local feeder voltage and power control, enabled by (1) substation controllers utilizing phasor-based measurements, and (2) coordination with centralized utility distribution management. The proposed system provides local measurement and control of electricity distribution, operating real-time, at utility scale. Additional data can be provided after execution of a Non-Disclosure Agreement ("NDA"). Supplemental information can be provided in the August time frame. The proposed budget is $1,750,000.

VI. OTHER BUDGET ITEM DISCUSSIONS

A. Travel and Training Line Item

The Company is requesting an increase to the Travel and Training line item due to increased engagements with 3rd-party research organizations; such as the National Renewable Energy Lab ("NREL"), Electric Power Research Institute ("EPRI"), and others; that are working with TEP on new and emerging issues surrounding grid stability and operational integrity. In addition to working with these entities, there are also more conferences available, from organizations such as UVIG and SEPA, to discuss and collaborate with other utilities on the aforementioned issues. The requested increase is $10,000.

B. Information System Costs

In 2015, TEP upgraded its interconnection application software. The current software is PowerClerk by Clean Power Research. It is a software-as-a-solution ("SAAS") subscription model. Due to the anticipated continued high volume of interconnection applications, the on-going software costs have increased. The requested increase is $9,000.

C. Metering Material Costs

Due to the anticipated continued high-volume of installations, the costs associated with providing DG production meters and associated equipment to residential and non-residential systems has increased. The budget for 2017 is based off of 3208 residential installations at $294.54 per kit, and 76 non-residential installations at $206.20.

D. Internal and External Labor Costs

The Plan budget reflects a decrease to both the internal and external labor line item for 2017. All internal employees that were part of the Program during July 1, 2014 through June 30, 2015, the Test Year for TEP's rate case, have been included in the Company's O&M; and, if approved, would be recovered through base rates and not the REST program. The reduction in external labor costs is due to a reduction in supplemental support labor.

VII. CONCLUSION

TEP's 2017 Implementation Plan was developed to allow the Company to cost-effectively comply with the REST requirements. The Company believes that the proposed Plan is prudent and in the public interest. TEP respectfully requests that the Commission adopt the Tucson Electric Power 2017 REST Implementation Plan as submitted.

EXHIBITS

EXHIBIT 1: LINE ITEM BUDGET

Exhibit 1

TEP Renewable Energy Standard Tariff

Line Item Budget	Approved 2016	2017	2018	2019	2020	2021
Total REST Budget & Tariff Collection:	$ 47,836,529	$ 52,269,444	$ 50,209,039	$ 49,350,143	$ 47,509,081	$ 46,656,460
Utility Scale Energy						
Above Market Cost of Conventional Generation (See Exhibit 2 for method)	$ 38,002,919	$ 41,041,220	$ 40,033,744	$ 39,231,719	$ 38,212,553	$ 37,289,708
Net TEP owned	9,366,025	1,090,123	1,010,015	889,005	-	-
Total	**47,368,944**	**42,131,342**	**41,043,759**	**40,120,724**	**38,212,553**	**37,289,708**
Customer Sited Distributed Renewable Energy:						
Annual Performance-Based Incentive (PBI)	7,192,720	7,192,720	7,192,720	7,192,720	7,192,720	7,192,720
Annual meter reading cost	35,363	37,131	38,988	40,937	42,984	45,133
Consumer Education and Outreach	100,000	100,000	100,000	100,000	100,000	100,000
Total	**7,328,083**	**7,329,851**	**7,331,708**	**7,333,657**	**7,335,704**	**7,337,853**
TEP internal and contractor training costs	**85,000**	**95,000**	**95,000**	**95,000**	**95,000**	**95,000**
Information Systems Integration Costs	**75,000**	**84,000**	**84,000**	**84,000**	**84,000**	**84,000**
Metering: Direct material cost for DG production meters and associated items	**697,975**	**960,560**	**1,008,588**	**1,059,017**	**1,111,968**	**1,167,566**
Program Labor and Administration						
Internal Labor	556,944	217,568	224,095	230,817	237,742	244,874
External Labor	216,903	163,000	167,890	172,927	178,115	183,458
Materials, Fees and Supplies	60,000	60,000	60,000	60,000	60,000	60,000
AZ Solar website	4,000	4,000	4,000	4,000	4,000	4,000
Total	**837,847**	**444,569**	**455,985**	**467,744**	**479,856**	**492,332**
Renewable Energy Balancing, Integration, and Field Testing						
Grid Integration Penetration Study	-	240,000	-		-	-
Customer DG Demand Rate Platform	-	250,000	-	-	-	-
Department of Energy Matching Grant Monies	-	1,750,000	-	-	-	-
Renewable Integration and Operations Study	38,000	-	-	-	-	-
Solar Test Yard Maintenace and Equipment	50,000	50,000	50,000	50,000	50,000	50,000
Field and Lab PV Component Degradation Analysis	50,000	50,000	50,000	50,000	50,000	50,000
Solar and Wind Operation Forecasting	100,000	75,000	75,000	75,000	75,000	75,000
Modeling and Simulation of DER Hosting Capacity	-	200,000		-	-	-
UWIG, SEPA, AWEA membership dues	15,000	15,000	15,000	15,000	15,000	15,000
Total	**253,000**	**2,630,000**	**190,000**	**190,000**	**190,000**	**190,000**
Program Cost Subtotal	**56,645,849**	**53,675,322**	**50,209,039**	**49,350,143**	**47,509,081**	**46,656,460**
Carry forward General REST Funds	8,809,321	1,405,878	-	-	-	-
Grand Total to be Collected in Tariff	$ 47,836,529	$ 52,269,444	$ 50,209,039	$ 49,350,143	$ 47,509,081	$ 46,656,460

EXHIBIT 2: DEFINITION OF MARKET COST OF COMPARABLE CONVENTIONAL GENERATION

Market Cost of Comparable Conventional Generation

2017 Renewable Energy Standard and Tariff

OVERVIEW

Consistent with the Renewable Energy Standard Tariff ("REST") Rules passed by the Arizona Corporation Commission ("Commission"), Tucson Electric Power Company's ("TEP") Renewable Energy Standard and Tariff Implementation Plan contemplates recovery of expenses in excess of the Market Cost of Comparable Conventional Generation ("MCCCG")." The Commission provided guidance on defining MCCCG in the context of its REST Rules and identified the MCCCG as "the Affected Utility's energy and capacity cost of producing or procuring the incremental electricity that would be avoided by the resources used to meet the Annual Renewable Energy Requirement, taking into account hourly supply and demand circumstances. Avoided costs should include any avoided transmission, distribution, and environmental compliance costs." This exhibit defines the methodology for developing the MCCCG rate for the Company.

METHODOLOGY

Annual MCCCG rates shall be calculated in advance and stated as a single $/MWh value by renewable technology type. The renewable technology types will be based on projected hourly energy profiles for each type of renewable resource. Annual MCCCG rates will include renewable resources such as wind resources, fixed photovoltaic systems, concentrated solar with storage, single-axis tracking photovoltaic systems, and bio-fueled resources. Specific MCCCG rates would be developed as needed when new renewable technologies or new purchase power agreements are added to the Company's renewable portfolio. Annual MCCCG rates will capture the value of the seasonality and time of day delivery by deriving an average of on and off peak dispatch costs weighted by on and off peak renewable generation. MCCCG rates shall be calculated each year using the companies production cost simulation software 'Planning & Risk'. The hourly MCCCG rate determination criteria are shown in Table 1 below by comparing the types of renewable generation with the resource dispatch type. All projected MCCCG hourly rates are based on a 'Planning & Risk' production cost simulation that forecasts adequate generation and transmission capacity to meet all firm load obligations including system reserve requirements. Finally, the cost of renewable generation above the annual MCCCG rates will be recovered through the REST Adjustor Mechanism and REST Tariff.

Table 1 - MCCCG Hourly Rate Determination Matrix

<table>
<tr><td></td><td></td><td colspan="4">Types of Renewable Generation Resources</td></tr>
<tr><td rowspan="4">Resource Dispatch Type</td><td></td><td>Dispatchable Renewable Generation</td><td>Firm Renewable Generation</td><td>Non-Firm Renewable Generation</td><td>Curtailable Non-Firm Renewable Generation</td></tr>
<tr><td>Wholesale sales transaction served from existing resource portfolio</td><td colspan="4" rowspan="2">The MCCCG rate will be based on projected incremental production costs to serve firm load and wholesale sales opportunities for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.</td></tr>
<tr><td>No market transactions. Generation available from thermal resource portfolio.</td></tr>
<tr><td>Day, week or month ahead purchase transaction to serve firm load requirements.</td><td colspan="4">The MCCCG rate will be based on the projected day, week or month-ahead firm purchase power transactions committed for that hour. Costs will include any projected transmission, distribution and environmental compliance costs.</td></tr>
<tr><td>Spot market transaction to serve firm load requirements.</td><td colspan="4">The MCCCG rate will be based on the projected Palo Verde spot market price for that hour.
Costs will include any projected transmission, distribution and environmental compliance costs.</td></tr>
</table>

CALCULATION

$$MCCCG_{on} = Annual\ Average\ On\ Peak\ MCCCG\ Rate = \frac{\sum_{i=1}^{8760} PR_i * G_i * X_i}{\sum_{i=1}^{8760} G_i * X_i}$$

$$MCCCG_{off} = Annual\ Average\ Off\ Peak\ MCCCG\ Rate = \frac{\sum_{i=1}^{8760} PR_i * G_i * (1 - X_i)}{\sum_{i=1}^{8760} G_i * (1 - X_i)}$$

$MCCCG_{Annual\ Rate}$ = Average of on and off peak MCCCG rate weighted by projected on and off peak renewable generation.

It is assumed that there is a specific MCCCG rate for each renewable technology type.

Where

PR_i = Projected Planning & Risk dispatch cost ($/MWh) for hour i=1,2,…,8760.

G_i = Projected energy generation in renewable technology resource profile for hour i=1,2,…,8760.

$$X_i = \begin{cases} 1\ if\ hour\ i\ is\ an\ on\ peak\ market\ hour \\ 0\ Otherwise \end{cases} \qquad for\ i = 1,2,\ldots 8760$$

Table 2 – TEP's 2017 MCCCG Annual Rates

Renewable Technology	MCCCG Annual Rates	2016 $/MWh	2017 $/MWh
	Solar PV	$39.36	$25.85
	AZ Wind	$36.20	$24.80
	Biomass	$36.60	$25.00
	NM Wind	$35.64	$24.57
	Solar CSP	$39.43	$25.81

EXHIBIT 3: ABOVE-MARKET COST OF COMPARABLE CONVENTIONAL GENERATION BY TECHNOLOGY

****Confidential****

To be provided pursuant to the terms of the protective agreement in this docket.

EXHIBIT 4: IP RESOURCES

No.	Targeted Generation Resources:	Ownership[1]	Targeted Completion	2008-2017 Total MW (AC)	2008-2017 Total MW (DC)	Targeted Energy Production (MWh or Equivalent) 2017	2018	2019	2020	2021	Total
	Solar:										
1	Picture Rocks	PPA	COMPLETE	20.00	25.00	58,094	57,803	57,514	57,227	56,940	287,578
2	Avra Valley	PPA	COMPLETE	25.00	34.41	64,074	63,753	63,435	63,118	62,802	317,182
3	Avalon Solar I	PPA	COMPLETE	28.34	35.00	78,257	77,866	77,476	77,089	76,704	387,392
4	Gatos Montes	PPA	COMPLETE	4.92	6.00	10,088	10,037	9,987	9,937	9,888	49,937
5	Cogenra	PPA	COMPLETE	1.10	1.38	1,137	1,132	1,126	1,121	1,115	5,631
6	Amonix UASTP	PPA	COMPLETE	1.20	2.00	2,856	2,842	2,828	2,814	2,799	14,139
7	E.On Tech Park	PPA	COMPLETE	4.80	6.60	13,122	13,057	12,991	12,926	12,862	64,959
8	Valencia Solar	PPA	COMPLETE	10.00	13.20	21,465	21,358	21,251	21,145	21,039	106,258
9	Red Horse (Solar)	PPA	COMPLETE	41.00	51.25	117,341	116,754	116,170	115,589	115,011	580,865
10	Avalon Solar II	PPA	COMPLETE	17.22	21.53	47,790	47,551	47,313	47,076	46,841	236,570
11	Rehnu	PPA	7/22/2016	0.04	0.05	112	111	110	110	109	552
12	Springerville 4.6	TEP	COMPLETE	3.68	4.60	4,833	4,808	4,784	4,760	4,737	23,922
13	Springerville 1.0 + .81 Expansion	TEP	COMPLETE	1.45	1.81	1,960	1,950	1,940	1,930	1,921	9,700
14	UASTP I	TEP	COMPLETE	1.28	1.60	2,843	2,829	2,815	2,801	2,787	14,074
15	Solon Prairie Fire	TEP	COMPLETE	4.00	5.00	7,860	7,820	7,781	7,742	7,704	38,908
16	UASTP II	TEP	COMPLETE	4.00	5.00	7,860	7,820	7,781	7,742	7,704	38,908
17	Sundt Augmentation	TEP	COMPLETE	5.00	[illegible]	14,670	14,596	14,523	14,451	14,379	72,619
18	White Mountain Solar	TEP	COMPLETE	8.25	10.00	14,950	14,875	14,801	14,727	14,653	74,007
19	Fort Huachuca PHI	TEP	COMPLETE	13.60	17.20	29,339	29,193	29,047	28,902	28,757	145,238
20	SunPower (OH & HQ)	TEP	COMPLETE	0.44	0.62	1,090	1,085	1,079	1,074	1,068	5,396
21	Fort Huachuca PHII	TEP	11/18/2016	4.00	5.00	8,716	8,673	8,629	8,586	8,543	43,147
22	DeMoss Petrie	TEP	COMPLETE	0.18	0.22	364	362	360	358	357	1,801
23											
24	***Wind:***										
25	Macho Springs	PPA	COMPLETE	50.40	[illegible]	110,376	110,376	110,376	110,376	110,376	551,880
26	Red Horse (Wind)	PPA	COMPLETE	30.00	[illegible]	52,560	52,560	52,560	52,560	52,560	262,800
27											
28	***Geothermal:***										
29											
30											
31	***Biomass/Biogas:***										
32	Sundt Landfill Gas	PPA	COMPLETE	4.00	[illegible]	21,100	21,100	21,100	21,100	21,100	105,500
33											
34	***Total Targeted Generation***			***283.90***	***247.5***	***692,855***	***690,311***	***687,780***	***685,261***	***682,755***	***3,438,963***

Notes:

[1] All utility-owned and Third Party generat on projects are developed through a competitive RFP process, and all DE systems are built independently by Third Party developers and installers

EXHIBIT 5: IP RESOURCE COSTS

****Confidential****

To be provided pursuant to the terms of the protective agreement in this docket.

EXHIBIT 6: REST – TS1 RENEWABLE ENERGY STANDARD TARIFF

TEP
Tucson Electric Power

Tucson Electric Power Company

Original Sheet No. 705
Superseding:

Rider ~~R~~-6
Renewable Energy Standard and Tariff (REST) Surcharge
REST-TS1 Renewable Energy Program Expense Recovery

APPLICABILITY
Mandatory, non-bypassable surcharge applied to all energy consumed by all Customers throughout Company's entire electric service area.

RATES
For all energy billed which is supplied by the Company to the Customer. The REST surcharge shall be applied to all monthly bills. The REST rates are shown in the TEP Statement of Charges.

~~Customers will be billed a per kWh charge up to the cap applicable to their approved rate class as shown in the Company Statement of Charges, unless otherwise specified.~~

~~Notes:~~

~~1. A Large Commercial Customer is one with monthly demand greater or equal to 200 kW but less than 3,000 kW.~~
~~2. An Industrial Customer is one with monthly demand equal to or greater than 3,000 kW.~~
~~3. For non-metered services, the lesser of the load profile or otherwise estimated kWh required to provide the service in question, or the service's contract.~~
~~4. kWh shall be used in the calculation of the surcharge.~~

This charge will be a line item on customer bills reading "Renewable Energy Standard Tariff."

Per Decision No. 73637 effective March 21, 2013, any Customer who has received incentives on and after January 1, 2012 under the REST Rules, shall pay the average of the REST surcharge paid by members of their Customer class. Any Customer who has a renewable installation without incentives that is interconnected with TEP's system on and after February 1, 2013 shall pay the average of the REST surcharge paid by members of their Customer class. The average price by class is shown in the TEP Statement of Charges.

TEP STATEMENT OF CHARGES
For all additional charges and assessments approved by the Arizona Corporation Commission (ACC) see the TEP Statement of Charges which is available on TEP's website at www.tep.com.

RULES AND REGULATIONS
The standard Rules and Regulations of the Company as on file with the ACC shall apply where not inconsistent with this rider.

TAX CLAUSE
To the charges computed under this ~~rider above rate~~, including any adjustments, shall be added the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of gross revenues of the Company and/or the price or revenue from the electric energy or service sold and/or the volume of energy generated or purchased for sale and/or sold hereunder.

Filed By	Kentton C. Grant	Rate	R-6
Title	Vice President of Finance and Rates	Effective	
District	Entire Electric Service Area	Decision No.	

Rider R-7
Customer Self-Directed Renewable Energy Option
REST-TS2 Renewable Energy Standard Tariff

AVAILABILITY
Open to all Eligible Customers as defined at A.A.C. R14-02-1801.H.

APPLICABILITY
Any Eligible Customer that applies to the Company under this program and receives approval shall participate at its option.

PARTICIPATION PROCESS
An Eligible Customer seeking to participate shall submit to the Company a written application that describes the Distributed Renewable Energy (DRE) resources or facilities that it proposes to install and the estimated costs of the project. The Company shall have sixty (60) calendar days to evaluate and respond in writing to the Eligible Customer, either accepting or declining the project. If accepted, the Customer shall be reimbursed up to the actual dollar amounts of customer surcharge paid under the REST-TS1 Tariff in any calendar year in which DRE facilities are installed as part of the accepted project. To qualify for such funds, the Customer shall provide at least half of the funding necessary to complete the project described in the accepted application, and shall provide the Company with sufficient and reasonable written documentation of the project's costs. Customer shall submit their application prior to May 1 of a given year to apply for funding in the following calendar year.

FACILITIES INSTALLED
The maintenance and repair of the facilities installed by a Customer under this program shall be the responsibility of the Customer following completion of the project. In order to be accepted by the Company for reimbursement purposes, the project shall, at a minimum, conform to the Company's System Qualification standards on file with the Commission. (REST Implementation Plan, Renewable Energy Credit Purchase Program – RECPP, Distributed Generation Interconnection Requirements, Net Metering Tariff, Company's Interconnection Manual)

PAYMENTS AND CREDITS
All funds reimbursed by the Company to the Customer for installation of approved DRE facilities shall be paid on an annual basis no later than March 30th of each calendar year. All Renewable Energy Credits derived from a project, including generation and Extra Credit Multipliers, shall become the property of the Company and shall be applied towards the Company's Annual Renewable Energy Requirement as defined in A.A.C. R14-2-1801.B.

RULES AND REGULATIONS
The standard Rules and Regulations of the Company as on file with the Arizona Corporation Commission shall apply where not inconsistent with this rider.

RELATED [illegible]

- REST-TS1 - Renewable Energy Program Expense Recovery

Tucson Electric Power

Tucson Electric Power Company

~~Tenth~~ Eleventh Revised Sheet No.: 801-1
~~801-1~~

Superseding ~~Ninth~~ Tenth Revised Sheet No.: 801-1

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	$0.001501 per kWh	May 1, 2016	~~7511~~75512
Rider R-2 – Demand Side Management Surcharge (DSMS) RESIDENTIAL: NON-RESIDENTIAL: FREEPORT-MCMORAN COPPER AND GOLD (25 MW and above):	$0.001916 per kWh 1.97% Exempt	February 12, 2016	75450
Rider R-3 – Market Cost of Comparable Conventional Generation (MCCCG) Calculation as Applicable to Rider-4 NM-PRS	$0.025204 per kWh	April 1, 2016	~~7511~~75511
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Lifeline Discount, Rate R-06-01 Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13 Solar Block Energy Rate for Municipal Service, Rate PS-40	 $0.050198 per kWh $0.050324 per kWh $0.048475 per kWh $0.049371 per kWh $0.049086 per kWh	February 1, 2011	71835[1]
Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for Small General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13	 $0.053463 per kWh $0.053274 per kWh $0.053227 per kWh	July 1, 2013	73912
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Monthly Cap For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	$0.013000 per kWh Monthly Cap $ ~~4.76~~5.25 per month $ ~~130~~160.00 per month $ ~~1,300~~1,600.00 per month $ ~~15,000~~16,000.00 per month $ ~~130~~140.00 per month	~~May 16, 2016~~Pending	~~75560~~Pending

[1]The Rider R-5 approved by Decision No. 71835 is closed for new enrollment as of July 1, 2013

Filed By:	Kentton C. Grant	Rate:	Statement of Charges
Title:	Vice President of Finance and Rates	Effective:	July 1, 2013
District:	Entire Electric Service Area	Decision No.:	73912

Tucson Electric Power

Tucson Electric Power Company

~~Eleventh~~Tenth Revised Sheet No.: 801-2

Superseding ~~Ninth~~ Tenth Revised Sheet No. : 801-2

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Average price by class: Monthly Cap For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	Monthly Cap $ 4.~~17~~53 per month $ ~~30.32~~32.40 per month $ ~~1092.76~~1260.64 per month $ ~~15~~16,000.00 per month $ 18.~~85~~66 per month	~~May 16, 2016~~Pending	~~75560~~Pending
Rider R-8 Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation	0.8565% 0.2770%	August 1, 2015	75158
Rider R-9 – Environmental Compliance Adjustor (ECA)	$0.000250 per kWh	May 1, 2016	73912

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: Statement of Charges
Effective: July 1, 2013
Decision No.: 73912

Tucson Electric Power

Tucson Electric Power Company

Eleventh Revised Sheet No.: 801-1

Superseding Tenth Revised Sheet No.: 801-1

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-1 – Purchased Power and Fuel Adjustment Clause (PPFAC)	$0.001501 per kWh	May 1, 2016	75512
Rider R-2 – Demand Side Management Surcharge (DSMS) RESIDENTIAL: NON-RESIDENTIAL: FREEPORT-MCMORAN COPPER AND GOLD (25 MW and above):	 $0.001916 per kWh 1.97% Exempt	February 12, 2016	75450
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Rider R-5 – Electric Service Solar Rider (Bright Tucson Community Solar™) Solar Block Energy Rate for Residential Lifeline Discount, Rate R-06-01 Solar Block Energy Rate for Residential Electric Service, Rate R-01 Solar Block Energy Rate for General Service, Rate GS-10 Solar Block Energy Rate for Large General Service, Rate LGS-13 Solar Block Energy Rate for Municipal Service, Rate PS-40	 $0.050198 per kWh $0.050324 per kWh $0.048475 per kWh $0.049371 per kWh $0.049086 per kWh	February 1, 2011	71835[1]
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Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Monthly Cap For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	$0.013000 per kWh Monthly Cap $ 5.25 per month $ 160.00 per month $ 1,600.00 per month $ 16,000.00 per month $ 140.00 per month	Pending	Pending

[1]The Rider R-5 approved by Decision No. 71835 is closed for new enrollment as of July 1, 2013

Tucson Electric Power

Tucson Electric Power Company

Eleventh Revised Sheet No.: 801-2

Superseding Tenth Revised Sheet No. : 801-2

TEP STATEMENT OF CHARGES

Description	Rate	Effective Date	Decision No.
Rider R-6 – Renewable Energy Standard and Tariff Surcharge REST-TS1 Renewable Energy Program Expense Recovery Average price by class: Monthly Cap For Residential Customers: For Small General Service Customers: For Large General Service Customers: For Large Light & Power Customers: For Lighting Customers:	 Monthly Cap $ 4.53 per month $ 32.40 per month $ 1260.64 per month $ 16,000.00 per month $ 18.66 per month	Pending	Pending
Rider R-8 Lost Fixed Cost Recovery (LFCR) Mechanism – Energy Efficiency Lost Fixed Cost Recovery (LFCR) Mechanism – Distributed Generation	 0.8565% 0.2770%	August 1, 2015	75158
Rider R-9 – Environmental Compliance Adjustor (ECA)	$0.000250 per kWh	May 1, 2016	73912

Filed By: Kentton C. Grant
Title: Vice President of Finance and Rates
District: Entire Electric Service Area

Rate: Statement of Charges
Effective: July 1, 2013
Decision No.: 73912

EXHIBIT 7: CUSTOMER LOAD PERCENTAGE ANALYSIS

2017 Company Proposed Plan

Customer Class	Total Revenue	Percent of Revenue	Average Bill	Monthly Cap	Percent of Bills at Cap	Percentage to Total Load
Residential	$21,154,896	40.5%	$4.53	$5.25	70.2%	41.1%
Small Commercial	$16,524,889	31.6%	$32.40	$160.00	7.4%	23.5%
Large Commercial	$8,689,963	16.6%	$1,260.64	$1,600.00	49.1%	13.1%
Industrial & Mining	$5,508,066	10.5%	$16,000.00	$16,000.00	100.00%	22.0%
Lighting (PSHL)	$414,316	0.8%	$18.66	$140.00	1.12%	0.4%
Total	$52,292,130	100.0%				100.0%

EXHIBIT 8: PV PANEL DEGRADATION LAB AND FIELD TESTING RESULTS

****Confidential due to unpublished 3rd-Party Data****

To be provided pursuant to the terms of the protective agreement in this docket.

EXHIBIT 9: RENEWABLE ENERGY PROGRAM POLICIES AND PROCEDURES ("REPPP")

TABLE OF CONTENTS

I. FREQUENTLY ASKED QUESTIONS

What is Distributed Generation?

Distributed Generation ("DG") is defined as electric generation sited at a customer premise, providing electric energy to the customer load on that site or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas. The generator size and transmission needs shall be such that the plant or associated transmission lines do not require a Certificate of Environmental Compatibility from the Arizona Corporation Commission ("ACC").

What are Distributed Renewable Energy Resources?

Distributed Renewable Energy Resources are applications of appropriate technologies that are located at a customer's premise that displace conventional energy resources that would otherwise be used to provide electricity to Arizona customers.

Tucson Electric Power Company ("TEP" or "Company") provides programs consistent with these definitions and generally refers to these programs as DG programs. For more information on these and other definitions, please visit the ACC's Renewable Energy Standard and Tariff webpage at http://www.azcc.gov/divisions/utilities/electric/environmental.asp.

What is Net Metering?

Net Metering refers to the production of electricity from a qualifying renewable energy electric generator, such as photovoltaic ("PV") panels, used to offset electricity provided by TEP. Customers deemed eligible for participation in TEP's Net Metering Tariff will be required to install a digital bi-directional meter capable of measuring the flow of electricity to and from the customer's premises. Net Metering customers may buy and sell electricity to and from TEP under the applicable terms and tariff rate.

No system may exceed 125% of connected load for that meter, where connected load is defined as the maximum demand divided by 0.6. For more information on Net Metering, please visit https://www.tep.com/customer/rates/.

Why is TEP involved with DG?

The ACC, which regulates TEP and utilities like it in Arizona, enacted the Renewable Energy Standard and Tariff ("REST") Rules in 2008. These rules require TEP to replace a substantial portion of its retail sales with renewable energy by investing in a variety of projects, including both utility-scale and DG projects. In order to comply with a portion of the REST Rules governing DG projects. TEP also supports the interconnection of customer-sited DG systems to its electrical grid, even if RECs were not purchased.

What is a TEP-qualified installer?

A TEP-qualified installer is an installer that has been evaluated by TEP personnel and deemed to have met the prerequisites for qualification. In order to become TEP-qualified, each installer must meet certain TEP requirements, including but not limited to annual submittal of the necessary paperwork contained within the "Installer's Packet". Each submittal must include, but is not limited to the following: an Installer's Agreement, a

current and valid Arizona Registrar of Contractor's ("AZROC") license appropriate for the solar technology being installed, Arizona business license in good standing, and similar information regarding any sub-contractor(s), if applicable. TEP will not, under any circumstances, issue or assign incentive payment(s) to an installer who is not TEP-qualified.

Where can I find more information?

For more information about TEP's renewable energy plans, please consult TEP's approved 2016 REST Implementation Plan, which can be found online at www.tep.com/Renewable/. Questions may be directed to (520) 917-3673.

What else do I need to know?

Each of the programs described herein, including all terms and conditions, are subject to change as dictated by program need and any and all regulatory authorities.

TEP's REPPP does not accommodate non-customer sited projects for any reason. "Solar Farms" or other utility-scale generation projects do not qualify under TEP's REPPP. These projects may participate in TEP's next request for proposals ("RFP") for renewable energy.

TEP's REPPP does not allow for any aggregated or virtual net metering of a customer's loads under any circumstance.

II. INSTALLER QUALIFICATIONS

All systems interconnecting to TEP's system must be installed by an installer properly licensed by the state of Arizona and qualified to install solar projects. TEP will verify that the installer meets the following minimum qualifications prior to confirming a reservation request:

1. The installer must possess a valid license on file with the AZROC with a license classification appropriate for the solar technology being installed. Alternatively, the installer must identify use of any sub-contractor(s) and ensure the subcontractor(s) maintain an appropriate license(s) on file with the AZROC for the solar technology being installed. Installers may not sub contract outside their scope of work per the AZROC rules; and
2. The installer must possess an Arizona business license that is active and in good standing.
3. Installers must have completed the TEP Installer's Packet and have provided the above information to be retained on file with TEP. The installer must certify that the information on file remains current with the submission of each reservation request. Information on file must be renewed by the end of the calendar year and resubmitted for participation in the upcoming program year.

4. Self-Install. If a customer desires to install a PV system on their home, a licensed electrical contractor must perform all applicable connections as required by the customer's local jurisdiction. All project documentation is still required.

5. All qualified installers will receive one (1) log-in credential and be granted access to TEP's online DG application portal.

III. NET METERING

Customers interconnecting to TEP's system may have their solar PV system net metered. All policies and procedures regarding interconnection must be followed prior to a net meter being set. All billing structures and rates are subject ACC approval.

IV. PROHIBITION OF SYSTEM REMOVAL

Neither the Qualifying System nor any component thereof may be removed by any party, including but not limited to the applicant or future owners or occupants of the property until expiration of the Renewable Energy Credit Agreement or the last day of the final month of the final full calendar year of the applicable incentive payment term. If the Qualifying System or any component thereof is removed by any party in violation of this provision, the customer party to the Renewable Energy Credit Agreement shall immediately reimburse TEP a prorated amount of the incentive amount paid by TEP to customer or on behalf of customer to an authorized third party.

In addition, if a Qualified System is removed, TEP shall monitor that specific customer site to ensure that an additional incentive is not provided for any new distributed renewable energy resource system on that site until the original Renewable Energy Credit Agreement's contracted operational life of the original system has expired.

TEP shall attempt to monitor the number of missing or non-working distributed generation systems and shall summarize its observations in its annual Compliance Report.

For DG systems that did not receive incentives, the customer must still notify TEP as to whether the system will be relocated or deemed out of service. This is necessary for TEP's operations to maintain accurate records.

V. OTHER TEP RENEWABLE ENERGY PROGRAMS

For customers who do not wish to operate a DG system, TEP offers several other renewable energy programs.

- Bright Tucson Community Solar Program: TEP offers an easy and affordable way for TEP customers to meet their electric needs with locally generated solar power by purchasing solar power in "blocks" of 150 kWh per month. A customer may buy some or all of their power through the program. For more information, please see TEP's Bright Tucson Community Solar webpage at www.tep.com/renewable/home/bright/.

- TEP-Owned Residential Solar Program*[3]: TEP will install, own, operate and maintain solar PV systems on eligible customer's homes. In exchange the customer would receive a fixed electric rate for up to 25 years. Please visit https://www.tep.com/renewable/home/residentialsolar/ for more program and eligibility information.

- Residential Community Solar Program (Proposed)[4]: Eligible customer participating in this program would pay a fixed energy rate, in exchange for their solar energy production to be a portion of a larger utility-owned solar facility. No equipment would be installed on the customer's premise. For information please refer to tep.com.

VI. INCENTIVES

TEP currently does not offer any new Up-Front Incentive ("UFI") or Performance-Based Incentive ("PBI") programs. Only customers who entered into a PBI contract with TEP in prior years will continue to receive ongoing incentive payments.

VII. GENERAL INTERCONNECTION PROCESSES

A. Application Process

TEP's interconnection application process appears below. TEP requires strict adherence to this process. Any deviation from the requirements below may result in your application being denied. If you are working with an installer or contractor, please ensure that they follow the required processes explained below.

1st Step: Submittal of the Properly Completed TEP Online Application.

*Please visit www.tep.com/renewable for online application submission. Applications for Residential and Non-Residential projects of all sizes are to be submitted online only.

2nd Step: Submittal of executed Attachments A & B

Attachment A: Notifies customer that they are subject to future rate changes, as approved by the ACC.

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[3] TEP-Owned Residential Solar Program is currently limited to 600 customers. Continuation and expansion of the Program is currently under consideration by the ACC.

[4] Residential Community Solar Program is currently under consideration by the ACC.

Attachment B: Confirms that the solar PV system was installed according to TEP's Service Requirements ("SR"), and DG Interconnection Requirements ("DGIR"). These can be found at https://www.tep.com/customer/construction/esr/.

*** All residential application paperwork must contain the associated project number that is provided upon successful completion of online application**

3rd Step: Submittal of executed TEP Consumer Acknowledgements:

- Customers buying, financing or leasing a solar distributed energy generation system ("System") must receive certain disclosures from the manufacturer and solar installers regarding warranties, payment obligations, performance data and major System components as set forth in A.R.S. § 44-1763. These acknowledgements must be signed by the customer and submitted as part of the online application.

*** Paperwork sent directly to any specific employee Company email address will not be processed.**

4th Step: Confirmation or Denial of Project Application.

- Once received, TEP will match the application with the submitted Attachment A & B. It is the customer's and/or installer's responsibility to ensure that all forms are filled out completely and correctly. **Forms with missing and/or incorrect information will be denied and a new application will need to be submitted. Outdated forms will be rejected.**
- TEP will evaluate each application for completeness. TEP will also verify, where an installer is used, that the installer is a TEP-qualified installer. If TEP has not received a completed installer packet, this will be required prior to application approval. Provided that the application meets TEP's requirements, and that the installer, if any, is TEP-qualified, TEP will issue the customer and installer a reservation confirmation letter and provisionally approve the application.

5th Step: Submittal of Jurisdictional Final Inspection.

1. Failure to obtain a jurisdictional final inspection within 180 days for residential projects, and 365 days for non-residential projects, of the date of the application confirmation letter will result in the revocation of a customer's interconnection application. If this occurs, the customer or installer must reapply to participate in the program subject to all policies, procedures and rates in effect at time of reapplication.
2. In the event that a jurisdictional final inspection is not completed within the required timelines and the customer or installer provides proof to TEP that a correctly completed application for a jurisdictional final inspection was made within the timeline required, TEP will neither process nor revoke the customer's reservation for 30 days to allow customer time to confirm with the inspecting jurisdiction when the inspection will occur. Provided that the customer provides TEP with an inspection date within those 30 days, the customer's reservation will be honored. If 30 days elapses with no information from the customer, the application will be terminated and the customer must reapply to participate in the program subject to policies, procedures and rates in effect at time of reapplication.

6th Step: Submittal of Certificate of Completion ("COC") Form.

For all program applications: once the jurisdictional final inspection has been approved, the installer or customer must complete the COC. It is the responsibility of the installer to be sure that the COC contains the application Project Number. Any COCs that do not include a project number will be considered incomplete and **will not be accepted**.

7th Step: TEP will confirm installation of your system.

8th Step: TEP process of setting meters.

Upon receipt of the jurisdictional final inspection; the COC, and confirmation that all applicable SRs were adhered to, including, but not limited to, installation of Company-supplied placards, etc.; TEP will set a solar energy production meter and change the customer's revenue meter to a net energy revenue meter.

B. Restrictions/Important Notes:

1. TEP reserves the right to modify the business process to better serve customers or to increase efficiency. Please refer to www.tep.com/renewable for the most up-to-date information.
2. With the exception of minor system modifications during the procurement process, any material changes to a system made after the application is processed will result in cancellation of the existing application and will require a new online application to be submitted. The reservation request may be denied because the request is not in compliance with program requirements (see specific technical sections below).
3. Project extensions will not be granted except in extenuating circumstances and proof must be submitted.
4. Receipt of the application is not valid until a properly completed application, appropriate disclaimers and a completed Installer's Packet has been received by TEP. Any application packets submitted incorrectly will be cancelled as will their corresponding online application.
5. TEP must receive the required program documents; REPPP Reservation Packet and approve the application, and reserve the funds prior to receiving the meters. "Installed" is defined as the date of the final clearance from the appropriate jurisdiction).
6. In order to participate in the REPPP and/or submit DG applications online, installers must have on file with TEP a completed Installer's Packet, which may include a New Supplier Fact Sheet. This document is available in the Installer's Corner at www.tep.com/renewable.
7. Any residential project larger than 10.0 kWac will be subject to engineering review to determine if the proposed project is on a shared transformer. Following TEP's SRs, customers may potentially be subject to a reduction in system size or upgrading of existing facilities at their own expense should it be determined necessary by TEP Engineering.

VIII. OTHER PROJECTS

A. Technologies without Technology Specific Criteria

Technology specific criteria have not yet been developed for the following qualifying technologies:

- Fuel Cells
- Battery Systems
- Other

For applicants requesting interconnection for these technologies or for applicants requesting installation of a technology with specific project technology criteria, but where some criteria cannot be met, the applicant will need to submit design and output documentation.

Applicants installing these systems will, at a minimum, need to provide an energy savings and designed output report for the system. The report must include either a testing certification for a substantially similar system prepared by a publicly funded laboratory or an engineering report stamped by a qualified registered professional engineer. The engineering report and/or testing certification shall provide a description of the system and major components, design criteria and performance expectations, applicable standards and/or codes, and a brief history of components in similar applications. Additional information may be required as part of the REPPP requirements.

Battery storage systems must have the inverter as a separate component to the system. TEP must be able to locate the DG production meter at the inverter's output. If configured otherwise, battery losses will adversely affect production monitoring by the Company. All components must meet the requirements outlined in Attachment A.

B. Non-Conforming Projects

Non-conforming projects and their specific interconnection procedures will be identified as the Program evolves.

C. Guidelines for Photovoltaic Projects Interconnecting Without Incentives

Customers may install grid-tied photovoltaic electric systems behind their meter without incentives. If a customer chooses to do so, the customer shall still notify TEP that a renewable energy generator is being connected to TEP's grid and complete any associated interconnection processes as defined above at tep.com. The process for non-incentive utility interconnection, for both residential and non-residential projects, is available at www.tep.com/renewable.

All projects must adhere to applicable SRs (including, but not limited to, Section 1.22) and DGIRs in order to be eligible for Net Metering. In addition to any applications required by the Renewable Resources department, all systems over 50 kW AC are required to submit Interconnection Applications to TEP's Energy Services department. TEP reserves the right to update application procedures interconnection standards throughout the Program year as deemed necessary. Please visit tep.com for the latest information.

For all residential interconnections, TEP will furnish a DG production meter, DG meter socket, applicable placards, and AC disconnect in accordance with Company SRs. TEP will install the meter. For all non-residential interconnections, TEP will furnish and install the DG production meter only. Prior to meter installation on non-

residential projects, the Company must be notified of wiring configuration so the appropriate 3-phase meter can be provided.

IX. GLOSSARY OF TERMS

ACC – Arizona Corporation Commission.

AZROC – Arizona Registrar of Contractors.

Applicant – Utility customer of record for the Utility Revenue Meter located at the installation site; a builder of the structure (residential or non-residential) who will reserve and install the Qualifying system; or for an off-grid Qualifying System, the property owner for the installation site located within a Utility's service territory.

Arizona Business License – A business license issued by the ACC.

Cancelled – Reservation Status indicating that a Reservation has been terminated, funding is no longer allocated, and the utility has removed the reservation from the funding queue.

Cancellation – The termination of the Reservation.

Commissioned – Qualifying System certified to be in operation.

Commissioning Package – Written verification signed by the installer and the customer confirming that the system has been installed in conformance with the approved reservation and that the system is ready for operation.

Conforming Project – Any project utilizing a renewable technology listed in Attachment D.

Conformance Inspection – Inspection performed by the utility to verify that the system has been installed and operates in conformance with the Reservation application.

Customer – Utility customer of record for the Utility Revenue Meter located at the installation site or a builder of the structure (residential or non-residential) who will reserve and install the Qualifying System.

Extension – The extension of the Reservation Timeframe.

Installer – The entity or individual responsible for the installation of a qualifying system.

Installed – The date of the final clearance from the appropriate jurisdiction

Interconnection Inspection – Inspection performed by the utility to confirm that the system can be safely interconnected to the power grid.

Non-Conforming Project – Non-conforming projects include, but are not limited to, projects with staged completion dates, multi-customer or multi-system projects, projects involving more than one technology, projects requiring new or unique agreement terms, projects with technologies for which qualification standards have not been developed or projects requiring non-standard timeframes.

Performance Based Incentive ("PBI") – Incentive based on a rate per actual kWh output or on equivalent kWh of energy savings.

Project Costs – System Costs plus financing costs.

Proof of Project Advancement – Documentation demonstrating that a project is progressing on schedule and is staged for Commissioning on or before the end of the Reservation Timeframe.

Qualifying System – Distributed renewable energy systems meeting the qualifications for production of qualified Renewable Energy Credits in Arizona acceptable to the Arizona Corporation Commission as they may be defined for affected utilities to meet any renewable energy standards.

Renewable Energy Credit ("REC") – One Renewable Energy Credit is created for each kWh, or kWh equivalent for non-generating resources, derived from an eligible renewable energy resource. RECs shall include all environmental attributes associated with the production of the eligible renewable energy resource.

Reservation – A dollar amount committed by the utility to fund a project if all program requirements are met.

Reservation Status – Indicator relating to approval or denial of a Reservation request. If a Reservation is approved, the Reservation Status is Reserved. If a Reservation request is denied, the Reservation Status is either Cancelled or Wait Listed.

Reserved – Status indicating the acceptance of a Reservation request.

Reservation Timeframe – The duration of the utility's funding commitment for a Reservation.

Retroactive System – A Renewable solar system installed before an application for incentive was received and approved by TEP.

System Costs – Costs associated with the Qualifying System components, direct energy distribution, system control/metering, and standard installation costs directly related to the installation of the Qualifying System.

Up Front Incentive ("UFI") – One time incentive payment based on system capacity or estimated energy kWh production rather than on measured system output.

Wait List – Status indicating Applicant has met program requirements, but the Utility has insufficient funding to commit to funding the project.